DOCUMENT RESUME

ED 047 675 JC 710 063

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TITLE The Effect of Differential College Experiences in Developing the Students' Self- and Occupational-Concepts: An Application of Discriminant Analysis with Longitudinal Data.
PUB DATE [70]
NOTE 30p.; Paper presented at the 1971 Annual Meeting of the American Educational Research Association, February 4-7, 1971, New York, New York

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS *Aspiration, *Junior Colleges, *Self Concept, Self Esteem, Self Evaluation, *Student Attitudes, *Student Reaction, Student Role

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ED047675

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The Effect of Differential College Experiences in Developing the Students' Self- and Occupational-Concepts: An Application of Discriminant Analysis with Longitudinal Data*

by

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ABSTRACT

Entering students at a community college had lower self-esteem and identified with lower-status occupations than their university counterparts. Two years later the differences in self-esteem had been eliminated, liberal arts students at the community college identified with higher status occupations, and business and technical students at the community college identified more closely with occupations which corresponded to their chosen curricula. These relationships were especially clear when the nineteen dependent variables were reduced to a two dimensional discriminant space.

A paper presented at the annual meeting of the
American Educational Research Association
New York, New York
February 4-7, 1971

*The research reported herein was supported by the State Department of Education, Trenton, New Jersey under the auspices of the Vocational Division.

JC 710 063

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CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

INTRODUCTION

In recent years our society has placed an increasing emphasis on the need for post-high school education. The four-year college or university is widely accepted by parents, employers, and students alike as the most desirable means for such education. However, because of strict admission requirements, many students are not able to attend a university. An alternative for post-high school training is afforded these students through the two-year college movement. In the community college, one type of two-year college, some students pursue two-year occupational programs, while others prepare for continuation in a university.

One can question the effect that the community college experience has on the ways the student perceives himself and various occupational and social roles. The low social status of the community college relative to the university may be detrimental to the development of a positive self-concept, as well as his social and occupational identification. Proponents of the community college, on the other hand, argue that the experience allows the student to explore educational alternatives and conceive of himself as a college student without the competitive pressure of the university. Thus, the student's self-esteem and views of occupational and social roles that may have hitherto been beyond his realm of possibility should be enhanced.

Super (1957, 1963a) has theorized extensively about self-concept and vocational development and their interrelationship. He has posited that self-concept affects vocational development in the three following ways:

(1) formation of the self-concept - developing a sense of identity through an exploratory process;

(2) translation of the self-concept into occupational terms - occurring through identification, experience, or awareness of appropriate attributes;

(3) implementation - actualization of self-concept through work or training for work.

The above processes, says Super, generally occur in the above order, though they are not irreversible. Self-concepts are continually modified as new experiences are incorporated or assimilated into the individual's cognitive structure.

Super (1957) has defined the following five stages of vocational development: growth, exploration, establishment (implementation), maintenance, and decline. Within the implementation stage (the one relevant to this study), the following activities can be enumerated:

(1) confirmation and verification of choice;
(2) professional identification;
(3) knowledge of self and role requirements.

Super (1963b) has defined vocational self-concept as the "constellation of self attributes which the individual considers vocationally relevant." Bingham (1966) has refined the definition of vocational self-concept to mean "the constellation of self attributes which the individual considers relevant to his own performance in or suitability for a specified occupational role."

The two-year college program not only allows more students and different types of students to have a college experience but it also provides oc-

cupationally-relevant experiences for some students which should contribute to their vocational development as part of the implementation stage. Since training in many ways provides a taste of an occupation, it can allow the student to test his choice, gain professional identification, and gain knowledge of himself and the role requirements of his occupation-to-be. Not only should the two-year college program lead the student to consider occupations of more diversity and greater status than he might have heretofore, it should also allow students to increase the specificity of their career goals, particularly those students enrolled in occupational programs. Thus, the two-year college experience is expected to increase self-esteem, level of aspiration, and specificity of occupational-concepts (i.e., closer identification with a chosen field). These outcomes would be consistent with Super's formulations on vocational development.

Within this study, three types of self-concepts are dealt with. The first of these is called alternatively <u>self-esteem</u> or (generically) <u>self-concept</u>. It refers to the extent to which an individual is like what he would want himself to be. The second is called <u>occupational-concept</u> and refers to the extent to which the individual sees himself in like terms to persons engaged in specific occupations. Finally, <u>social role-concept</u> refers to the extent to which the individual sees himself in like terms to persons fulfilling specific social roles.

The purpose of the present study was to determine the extent to which students who attend a community college differ from their university counterparts in terms of their self-concept and perceptions of social and occupa-

tional roles at the outset and to examine the degree to which these initial differences were amplified or eliminated as a result of two years of differential college experiences.

METHOD AND SAMPLE

The study was both longitudinal and cross-sectional in nature. Not only were students enrolled in community college programs followed over a two-year period, but they were also compared to university students at the beginning and end of this period.

The Multiple Repertory Test (MRT), as developed and used by Matlin and Starishevsky (1962), Bingham (1966), and Rampel (1967) was used as the dependent variable. Students were given a form of the Role Construct Repertory Test (RCRT: Kelly, 1955), by which they created twelve pairs of bipolar adjectives. The purpose of this step was to obtain a semantic space consonant with the subject's frame of reference. The subjects then rated twenty concepts on a seven-point scale using the twelve adjectives generated on the RCRT. The reference point concept rated was "I am," a self-description. The dependent variables were created by taking the absolute difference between each of the twelve adjective scale ratings on "I am" and the corresponding scale ratings for one of the other concepts and summing over the twelve scales. This procedure yeilded a discrepancy score between "I am" and the other nineteen concepts. The discrepancy scores thus calculated could range from 0 (ratings on both concepts identical for each scale) to 72 (ratings on the two concepts at extreme opposite ends for each scale; i.e., $|1 - 7| = |7 - 1| = 6$; 6 x 12 scales = 72).

The nineteen dependent variables (nineteen discrepancy scores) fell into three categories:

A. Self-esteem which was measured by the discrepancy score between "I am" and the concept:

   I wish I were

B. Social role incorporation measured by the discrepancy scores between "I am" and the four concepts:

High Society	Cultured Person
Outstanding Citizen	Community Leader

C. Occupational incorporation measured by the discrepancy scores between "I am" and the fourteen concepts:

Teacher	Technician	Truckdriver
Doctor	Business Executive	Mechanic/Machinist
Lawyer	Clerk	Policeman/Fireman
Accountant	Bookkeeper	Salesman
Engineer	Electrician/Plumber	

It should be noted that the greater the self-esteem or the level of incorporation of an occupational or social role concept, the smaller would be the discrepancy score.

The independent variable for the study was type of college experience. The four levels of this variable were:

1. Community College Liberal Arts (CC LA)
2. Community College Technical (CC T)
3. Community College Business (CC B)
4. University Liberal Arts (ULA)

The subjects were males all of whom had graduated from high schools in the same county in central New Jersey in June of 1967. The MRT was administered to subjects in each of the four groups in September of 1967. The sample size by group was: CCLA - 74; CCT - 63; CCB - 117; ULA - 93. For

the first three groups the subjects were a random sample of a larger group tested. The 93 ULA subjects represented all male university liberal arts students from the county.

The community college studied was approximately a year old at the time of the testing. The incoming freshman class numbered about 1,000. There were approximately 400 second year students. The College was located on a suburban campus and was engaged in a building program. Liberal arts (transfer) and occupational (terminal) programs were available as well as a pre-vocational program. Business and technical programs included laboratory and classroom study and were two years in duration.

The university studied was a public state university with an enrollment of about 23,000 students on all its campuses. Its major campus was located about six miles from the community college and contained an all male undergraduate college with an enrollment of about 5,000 students and about 1,400 students in each incoming class. Liberal arts, agriculture, and engineering programs were all available.

The follow-up testing was carried out in April of 1969 on those subjects still available. (The CC students were followed up by mail while the ULA subjects were tested in person.) The sample size for this test was: CCLA = 46; CCT = 25; CCB = 56; ULA = 68. This represented an experimental mortality rate ranging from 26 to 60 percent per group. A comparison of the total 1967 sample and the remaining 1969 subsample on pre-test means for each of the four groups indicated no bias due to experimental mortality. Only subjects for which both tests were available were included in the study.

The differences among the four groups for both the initial and follow-up tests on the nineteen dependent variables were investigated by means of multivariate analysis of variance (MANOVA) and multiple discriminant analysis. In this case, discriminant analysis was used primarily to characterize group differences identified in the MANOVA rather than as a means of classification which is its more common use (Bock and Haggard, 1968). In addition, one-way univariate analyses of variances were calculated for each of the dependent variables. The results of the analysis of the initial test data were then compared with the results obtained in the follow-up data to determine the effect of the differential college experience on the relative standing of the four groups.

RESULTS

Pretest discrepancy scores for each of the 19 stimulus words (i.e., each word minus "I Am") were calculated and subjected to a one-way analysis of variance. The results are given in Table 1. Significant differences among the four groups were found on 8 of the 19 stimulus words; i.e., 7 of the 14 occupations and self-esteem (I Wish I Were - I Am). No significant differences were found on the four social roles.

Place Table 1 About Here

Those occupations showing significant differences were engineer, technician, electrician/plumber, clerk, salesman, bookkeeper and truck driver. The first three are in the technical cluster and are most closely identified with by those students who had chosen a technical major in the community college (CCT). The other four occupations were significant due to the high mean discrepancy scores for the university group (ULA).

On the self-esteem measure, the University group had the lowest mean discrepancy between the ideal-self (I Wish I Were) and the real-self (I Am). The community college liberal arts (CCLA) group had the highest mean discrepancy for self-esteem.

Since the discrepancy scores for each of the 19 stimulus words were obtained from the same subjects, the scores for any one word are not independent of the other eighteen but are intercorrelated. Because of these intercorrelations, the univariate F-tests in Table 1 are not independent; consequently, the probability statements concerning the significance of the differences between the groups are not accurate. An exact probability statement concerning group differences can be obtained using a one-way multivariate analysis of variance. The multivariate F statistic provides information about the differences among groups on all 19 scales simultaneously (Bock and Haggard, 1968). The multivariate test of group differences on the 19 pretest discrepancy scores is given in Table 2. In addition to the overall F statistic for the four groups, a matrix of F values is given for each pairwise comparison possible among the four groups. The overall F-test is significant ($F = 1.70$; $df = 57,517$; $p < .005$) indicating, as we would expect, that the group means on the 19 scales are different. The matrix of pairwise F-tests shows significant differences between the university and business groups ($F = 2.42$; $df = 19,173$; $p < .01$) and the combined technical and business groups ($F = 2.10$; $df = 19,173$; $p < .01$).

Place Table 2 About Here

While the above analysis indicates which groups differ significantly on the 19 scales, it does not indicate which scales are contributing to these differences. One would be inclined to consult Table 1 and the univariate analyses to answer this last question. But remember, the analyses in Table 1 do not take into account the intercorrelations among an individual's discrepancy scores, and in fact are confounded by the dependencies among the 19 scales. Therefore, Table 1 is at best only a rough guide to interpreting group differences on all the scales simultaneously. The appropriate technique for this purpose is discriminant analysis which can be incorporated into the MANOVA.

Discriminant analysis determines the linear combination of dependent variables (in this case the 19 stimulus words) which maximizes group differences. When there are more than two groups (and two or more dependent variables), more than one discriminant function may be necessary to depict accurately group differences. For example, in the present study, if the university and business groups differed on one set of scales and the technical and business groups differed on another set, two discriminant functions would be required to characterize these differences. In general, the number of possible discriminant functions is the lesser of the two numbers (g - 1) and m (where g is the number of groups and m is the number of variables). An approximate test of the statistical significance of group differences on a particular discriminant function is available to determine the number of meaningful functions (Cooley and Lohnes, 1962 and Maxwell, 1961).

In the present study with four groups (g = 4) and 19 variables (m = 19) the maximum number of discriminant functions possible is three. The tests of the significance for each of the three discriminant functions are given

in Table 3. Only the statistic associated with the first function is significant beyond $\alpha = .05$ level of confidence ($\chi^2 = 48.48$; df = 21; $p < .001$). Thus, for the pretest data, the first discriminant function is sufficient to depict the significant group differences shown in Table 2. However, both the first and second functions are included in the remaining discussion of the pretest data for reason that will become apparent when the posttest data are presented.

Place Table 3 About Here

The discriminant function weights scaled by multiplying each of the unscaled weights by the appropriate error standard deviation for each variable are given in Table 4. These scaled weights indicate by their sizes the relative contribution of each stimulus word to discriminating between the four groups. (See Bock and Haggard, 1968, p. 118.) The group centroids for

Place Table 4 About Here

each of the groups on the first two discriminant functions are presented in Table 5. These centroids represent the group means in the two-dimensional space defined by the first two discriminant functions. A group centroid was obtained by multiplying each stimulus word mean for that group by the corresponding unscaled discriminant function weight and summing over the 19 stimulus words. Since the functions were derived so as to maximize group separation, the centroids illustrate the nature of the group differences which were indicated in the matrix of pairwise comparisons given in Table 2.

Place Table 5 About Here

The centroids for the four groups on the first two discriminant functions are shown graphically in Figure 1. We see from this figure that the significant differences between the ULA and CCB groups and the CCT and CCB groups are both represented by the first discriminant function. This would indicate that the CCB group differs from the ULA and CCT groups on the same variables in a similar manner. For example, the largest scaled weight on Function I in Table 4 is for the stimulus word "engineer." The fact that the weight has a positive sign and the CCB group's centroid is positive indicates that business students have higher discrepancy scores than students in the other two groups. The negative signs on the weights in Function I indicate those variables on which business students have lower discrepancy scores; for example, bookkeeper and business executive. In general, the first discriminant function represents group differences on a business versus technical occupational continuum.

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Place Figure 1 About Here

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While ULA and CCT students differ in similar ways from CCB students along one dimension, Figure 1 shows that these two groups are distinct in terms of the second dimension of the discriminant space. A look at Function II in Table 4 helps in understanding the nature of the difference. The fact that the ULA group has a positive centroid and the CCT group a negative centroid on the second discriminant function indicates that discrepancy scores are lower in the first group on variables with negative weights on Function II and lower in the second group on variables with positive weights. Thus, Function II in Table 4 reflects the fact that CCT and CCLA students more closely identify with (i.e., have lower discrepancy scores on) the occupations of technician, clerk, and electrician/plumber

than do university students (Function II weights of .59, .64, and .41 respectively). On the other hand, the university students have lower discrepancy scores on the self-esteem variable (I Wish I Were - I Am, Function II weight of -.43).

In general, the second discriminant function identifies group differences along a self-esteem dimension of positive self-concept (ULA group) versus negative self-concept and identity with low status occupations (CCT and CCLA groups).

To examine further the occupational identification of the four groups, the mean discrepancy scores for each group on the fourteen occupations were ranked from lowest (rank 1) to highest. These rankings were then correlated with the status rankings given in Table 6 (Reiss, 1961). The

Place Table 6 About Here

mean ranks by group as well as the rank-order correlations are given in Table 7. The rankings for the ULA and CCB groups have high correlations with the status list (.74 and .77, respectively), while the rankings for the CCLA and CCT are low (.43 and .54, respectively). These results are consistent with the above interpretation of the second discriminant function.

Place Table 7 About Here

While the discriminant analysis presented above may appear somewhat complicated, its advantages over the univariate analyses of Table 1 above in representing group differences should be obvious. The reduction of the

19 dependent variables to a two-dimensional discriminant space greatly facilitated the interpretation and understanding of the interrelationships among the four groups that we were studying. This advantage will become even more apparent when we examine the posttest data and the changes that took place over the two-year period studied.

The analyses of variance for the 19 stimulus words on the posttest discrepancy scores along with group means are presented in Table 8. Significant differences were found on 10 of the 19 scales; i.e., two of the four social roles and 8 of the 14 occupations. No significant differences were found on the self-esteem measure (I Wish I Were - I Am).

Place Table 8 About Here

The occupations showing significant differences among the groups were technician, business executive, clerk, salesman, electrician/plumber, truck driver, mechanic/machinist, and policeman/fireman. Students in the CCT group identified with the technician role producing the significant result for that scale. The same was true for CCB students and the role, business executive. The rest of the scales were significant primarily due to high mean discrepancy scores for the ULA group. The one exception was "salesman" which was significant due to a combination of a high mean discrepancy for the ULA group and low means for the CCB and CCLA students.

Among the social roles high society and community leader were significant with the CCB group having the lowest mean discrepancy in both cases.

The same multivariate analysis described previously for the pretest data was applied to the posttest data. The overall multivariate F statistic for group mean differences along with the matrix of F values for pairwise comparisons among groups are given in Table 9. The overall F value is significant (F = 1.82; df = 57,517; $p < .005$) as expected. Three of the six pairwise group comparisons were significant: ULA versus CCB (F = 2.71, df = 19,173, $p < .01$); CCT versus CCB (F = 2.27, df = 19,173, $p < .01$); and ULA versus CCT (F = 1.88, df = 19,173, $p < .05$). As indicated

Place Table 9 About Here

previously, there are possibly three distinct dimensions on which the four groups in this study could differ. For each dimension there is a corresponding discriminant function describing it. We again examine the significance of each function (and thus each dimension) using the Chi-Square statistic. The results are recorded in Table 10. The first two roots corresponding to the first two discriminant functions are significant beyond $\alpha = .01$. Therefore, a two-dimensional discriminant space is necessary to represent all significant group differences.

Place Table 10 About Here

The scaled coefficients for each of the 19 stimulus words on the first two discriminant functions are listed in Table 11. The corresponding group

Place Table 11 About Here

centroids (which are simply group means in the discriminant space) are given in Table 12. The relative positions of the four groups in discriminant

Place Table 12 About Here

space are shown by the graph of group centroids in Figure 2. As was the case for the pretest data, the first function discriminates between the CCB group and the ULA and CCT groups. However, the composition of Function I has changed considerably. Whereas for the pretest the first discriminant space dimension was a somewhat complex technical versus business continuum, it has become a clearly <u>business</u> dimension on the posttest. Three of the highest scaled weights on Function I in Table 11 are on the business occupations; viz., business executive (-.82), salesman (-.44) and bookkeeper (.55). In addition, the social role word "community leader" has a weight of -.48 on the same function. Three of these four scales have negative loadings indicating business students identify more closely with the roles than do students in the other groups. The positive weight for bookkeeper shows that business students identify less with this role than do the other groups.

The similar contribution of "business executive" and "community leader" to Function I is apparently related to the common concept of the businessman in the American community. He is typically expected to join at least one civic organization and provide leadership in his community. While the roles "bookkeeper" and "salesman" have about the same social status (ranks 8 and 9 respectively on the Reiss status list) the former does not carry the social connotations associated with the latter. This may account for the lack of identification of business students with the occupations of bookkeeper. <u>Consequently, Function I may more accurately be called a business continuum with social overtones</u>.

The second function in Table 11 provides for discrimination primarily between the CCT and ULA groups. Examining the scaled weights for Function II, we see that the dimension is dominated by the occupational scale "technician" (scaled weight .95). Therefore, differentiation among the groups in the second discriminant dimension is clearly based upon occupational identification of technical students.

The rank-order correlations for each of the four groups with the status list are given in Table 13. The intercorrelations among the four groups are considerably higher than those for the pre-test. Note especially the correlation between the ULA and CCLA groups. The pretest value was .49 and the post-test correlation was .85. In addition, the correlation of the CCLA group with the status list on the pretest was .43, while on the posttest, the value was .66. The change indicates an increase in identification with higher status occupations by the CCLA group.

Place Table 13 About Here

DISCUSSION

While there are initial status differences among community college and university students, the results of this study lend support to the conclusion that community college students do not suffer any detrimental effects due to a lack of prestige. The feeling of second-class citizenship commonly attributed to such students do not appear to exist. Indeed, their self-esteem is increased and their occupational identification is sharpened.

Specifically, the following outcomes seem to occur as the result of the two-year college experience:

(1) a noticeable increasing in self-esteem for students in the community college resulting in comparable levels of self-esteem for these students as compared to those in the University (this enhancement in self-esteem is most striking for liberal arts students in the community college);

(2) an increase in the status level of occupations identified with by the community college liberal arts students as compared to the other groups;

(3) an increase in the occupational focus and identity of technical and business students in the community college as compared to University and community college liberal arts students; specifically, technical students identify more with technical occupations and less with business ones while the reverse is true for business students.

Thus, the two-year college experience was seen to have a dramatic effect. This effect took two forms. First, it led to a heightening of self-esteem, presumably based on the kind of opportunity engendered by the two-year college movement; that is, making college accessible to a wider range of students. Second, it led to an intensification of appropriate occupational identification among students enrolled in occupationally-oriented programs (thus, playing a role in career development as described by Super). The first two years of the university experience, on the other hand, produced no noticeable shift in self-concept in terms of either self-esteem or occupational identification.

The results definitely lend support to those who advocate the community college as a viable alternative to the university for many students. This may be especially true for those students who lack the self-confidence necessary to succeed in the competitive university environment. It appears that the community college provides the opportunity for success which is essential to developing self-esteem and realistic occupational identification.

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TABLE 1

Pretest Means and Analysis of Variance of Discrepancy Scores
For The 19 Stimulus Words

Stimulus Words	University Liberal Arts	CC Liberal Arts	CC Combined Technical	CC Business	MS_b	MS_w	F
I wish I were	17.56	22.89	20.20	20.57	291.44	91.36	3.19*
High Society	27.26	25.02	24.40	23.18	178.72	80.18	2.24
Outstanding Citizen	20.48	22.41	20.12	22.78	82.66	63.30	1.31
Cultured Person	20.93	20.61	21.76	22.78	51.05	77.41	0.66
Community Leader	21.40	21.30	20.92	22.18	12.13	66.89	0.18
Teacher	21.53	19.70	21.12	22.38	62.49	60.68	1.03
Doctor	21.82	22.48	21.88	22.34	5.33	85.94	0.06
Lawyer	21.74	24.04	20.92	21.95	77.77	79.68	0.90
Accountant	24.88	22.09	22.20	21.00	169.48	92.81	1.83
Engineer	20.79	22.87	17.76	23.59	235.57	68.86	3.42*
Technician	21.37	21.17	16.44	21.70	182.84	51.99	3.52*
Business Executive	23.88	22.30	21.76	20.19	140.84	64.85	2.17
Clerk	30.54	22.93	23.88	24.98	663.15	98.10	6.76**
Salesman	26.20	20.96	22.64	23.39	268.87	81.02	3.32*
Bookkeeper	28.00	22.50	23.88	22.09	450.65	95.40	4.72**
Electrician/ Plumber	27.73	24.13	20.80	25.11	269.96	85.43	3.16*
Truck Driver	32.54	26.85	29.80	28.57	331.94	95.52	3.48*
Mechanic/ Machinist	26.38	24.00	22.12	25.91	142.00	69.04	2.06
Policeman/ Fireman	26.38	23.63	24.00	24.82	80.98	66.43	1.22

df = 3,191

*p < .05, F = 2.65
**p < .01, F = 3.88

TABLE 2

One-Way Multivariate Analysis of Variance
Of The Pretest Discrepancy Scores

Overall	F = 1.70	Degrees of Freedom = (57; 517)
	F = 1.53	Tabled Value for p = .005

Matrix of F Values for Pairwise Group Comparisons
(Degrees of Freedom 19 and 173)

Group	University	Liberal Arts	Combined Technical
University	--		
Liberal Arts	1.64	--	
Combined Tech	1.41	1.48	--
Business	2.42**	1.13	2.10**

**p < .01

TABLE 3

Significance of Discriminant Functions Chi Square Approximation*

Function	Root	df	χ^2	p
I	0.30407	21	48.48	.001
II	0.15726	19	26.61	.20
III	0.10638	17	18.25	.50

*See Maxwell (1961), p. 266.

TABLE 4

Scaled Discriminant-Function Weights
For The Pretest Data

Stimulus Words	Function	
	I	II
I Wish I Were	.11	-.43
High Society	-.32	.40
Outstanding Citizen	.27	.05
Cultured Person	-.07	-.30
Community Leader	.33	.08
Teacher	.15	.02
Doctor	-.41	-.26
Lawyer	-.10	-.06
Accountant	-.28	-.25
Engineer	.77	.34
Technician	.32	.59
Business Executive	-.46	-.15
Clerk	.13	.64
Salesman	-.03	.09
Bookkeeper	-.43	-.27
Electrician/Plumber	-.06	.41
Truck Driver/Deliveryman	-.34	-.13
Mechanic/Machinist	.26	-.11
Policeman/Fireman	-.06	-.10

TABLE 5

Group Centroids on the First Two
Discriminant Functions for the Pretest

Group	Centroids	
	Function I	Function II
University	-.526	.379
CC - Liberal Arts	.272	-.168
CC - Technical	-.611	-.865
CC - Business	.688	.064

TABLE 6

A Listing of the Fourteen Occupations Appearing in the MRT with Their Rank-Ordering in Terms of Social Status (Reiss, 1961)

Rank	Occupation
1.5	Lawyer
1.5	Doctor
3.5	Business Executive
3.5	Engineer
5.0	Accountant (CPA)
6.0	Teacher
7.0	Technician
8.0	Bookkeeper
9.0	Salesman
10.5	Clerk
10.5	Electrician or Plumber
12.0	Policeman or Fireman
13.0	Mechanic or Machinist
14.0	Truck Driver or Deliveryman

TABLE 7

Ranking of Pretest Group Mean Discrepancy Scores and Status Ranking for 14 Occupations with the Intergroup Rank-Order Correlations

Occupations	Group Rankings				Status List
	Univ	CCLA	CC-Tech	CC-Bus	
1. Lawyer	4	12	4	4	1.5
2. Doctor	5	6	7	6	1.5
3. Business Executive	6	5	6	1	3.5
4. Engineer	1	8	2	9	3.5
5. Accountant	7	4	9	2	5.0
6. Teacher	3	1	5	7	6.0
7. Technician	2	3	1	3	7.0
8. Bookkeeper	12	7	13	5	8.0
9. Salesman	9	2	10	8	9.0
10. Clerk	13	9	12	11	10.5
11. Electrician/Plumber	11	13	3	12	10.5
12. Policeman/Fireman	10	10	11	10	12.0
13. Mechanic/Machinist	8	11	8	13	13.0
14. Truck Driver/Deliveryman	14	14	14	14	14.0

Intergroup Rank-Order Correlations					
University	--	.49	.84	.53	.74
CC Liberal Arts		--	.20	.63	.43
CC Technical			--	.33	.54
CC Business				--	.77

TABLE 8

Posttest Means and Analysis of Variance of Discrepancy Scores
For the 19 Stimulus Words

Stimulus Words	University Liberal Arts	CC Liberal Arts	CC Combined Technical	CC Business	MS_b	MS_w	F
I Wish I Were	16.03	18.72	17.84	16.98	70.60	85.56	0.57
High Society	27.24	23.93	28.12	22.32	344.06	94.57	3.62*
Outstanding Citizen	20.87	19.30	21.28	18.88	61.73	61.03	1.01
Cultured Person	18.96	19.30	21.20	19.54	31.40	55.54	0.56
Community Leader	22.38	19.96	22.52	18.66	177.64	66.91	2.65*
Teacher	20.09	18.70	20.04	20.66	33.99	63.39	0.54
Doctor	22.15	22.54	20.32	21.88	28.50	63.81	0.45
Lawyer	20.53	21.41	21.36	20.75	9.33	67.66	0.14
Accountant	26.65	22.20	24.64	24.05	189.21	116.06	1.63
Engineer	22.59	20.59	17.80	20.20	154.96	72.01	2.15
Technician	24.70	20.37	15.56	21.43	546.37	75.54	7.23**
Business Executive	25.15	21.37	23.40	18.46	479.45	71.38	6.72**
Clerk	32.20	24.22	27.60	28.25	599.85	110.06	5.45**
Salesman	28.31	21.43	24.64	21.12	677.89	85.44	7.93**
Bookkeeper	28.93	23.93	25.04	27.28	258.56	103.05	2.51
Electrician/Plumber	28.47	23.30	23.24	24.89	323.20	84.24	3.24*
Truck Driver	33.62	28.43	28.92	28.48	380.37	110.25	3.45*
Mechanic/Machinist	28.10	23.91	21.92	23.46	359.43	73.73	4.88**
Policeman/Fireman	28.17	22.65	22.24	23.48	416.10	85.11	4.89**

df = 3,191

*p < .05, F = 2.65
**p < .01, F = 3.88

TABLE 9

One-Way Multivariate Analysis
Of Posttest Discrepancy Scores

Overall	$F = 1.82$	Degrees of Freedom = (57; 517)
	$F = 1.53$	Tabled Value for $p < .005$

Matrix of F-Values for Pairwise Comparisons

	University	CC-LA	CC-Tech
University	--		
CC-LA	1.45	--	
CC-Tech	1.88*	1.13	--
CC-Bus	2.71**	1.36	2.27**

*$p < .05$ **$p < .01$ df = (19,173)

TABLE 10

Significance of Discriminant Functions
Chi Square Approximation

Function	Root	D.F.	χ^2	P
I	0.30637	21	48.78	.001
II	0.21951	19	36.23	.01
III	0.08267	17	14.45	.50

TABLE 11

Scaled Discriminant Function Weights
For The Posttest Data

Stimulus Words	Function	
	I	II
I Wish I Were	.03	.00
High Society	-.23	-.15
Outstanding Citizen	.18	-.27
Cultured Person	.18	-.26
Community Leader	-.48	-.12
Teacher	.22	.06
Doctor	.02	.26
Lawyer	.42	-.17
Accountant	-.12	-.29
Engineer	.07	.03
Technician	.22	.95
Business Executive	-.82	-.24
Clerk	.29	.44
Salesman	-.44	.24
Bookkeeper	.55	-.01
Electrician/Plumber	.13	.05
Truck Driver/Deliveryman	-.24	-.31
Mechanic/Machinist	-.32	-.03
Policeman/Fireman	-.06	.30

TABLE 12

Group Centroids on the First Two
Discriminant Functions for the Posttest

Group	Centroids	
	Function I	Function II
University	-.537	.427
CC - Liberal Arts	.042	-.256
CC - Technical	-.390	-1.007
CC - Business	.791	.142

TABLE 13

Ranking of Posttest Group Mean Discrepancy Scores and Status Ranking for 14 Occupations with the Intergroup Rank-Order Correlations

Occupations	Group Rankings				Status List
	Univ	CCLA	CC-Tech	CC-Bus	
1. Lawyer	2	5	5	4	1.5
2. Doctor	3	8	4	7	1.5
3. Business Executive	6	4	9	1	3.5
4. Engineer	4	3	2	2	3.5
5. Accountant	7	7	10	10	5
6. Teacher	1	1	3	3	6
7. Technician	5	2	1	6	7
8. Bookkeeper	12	12	12	12	8
9. Salesman	10.5	6	11	5	9
10. Clerk	13	13	13	13	10.5
11. Electrician/Plumber	8	10	7	11	10.5
12. Policeman/Fireman	9	9	8	9	12
13. Mechanic/Machinist	10.5	11	6	8	13
14. Truck Driver/Deliveryman	14	14	14	14	14

Intergroup Rank-Order Correlations					
University	--	.85	.80	.76	.81
CC - Liberal Arts		--	.75	.87	.66
CC - Technical			--	.66	.51
CC - Business				--	.66

FIGURE 1

Centroids of the Four Groups
On The First Two Discriminant Functions
For the Pretest Data

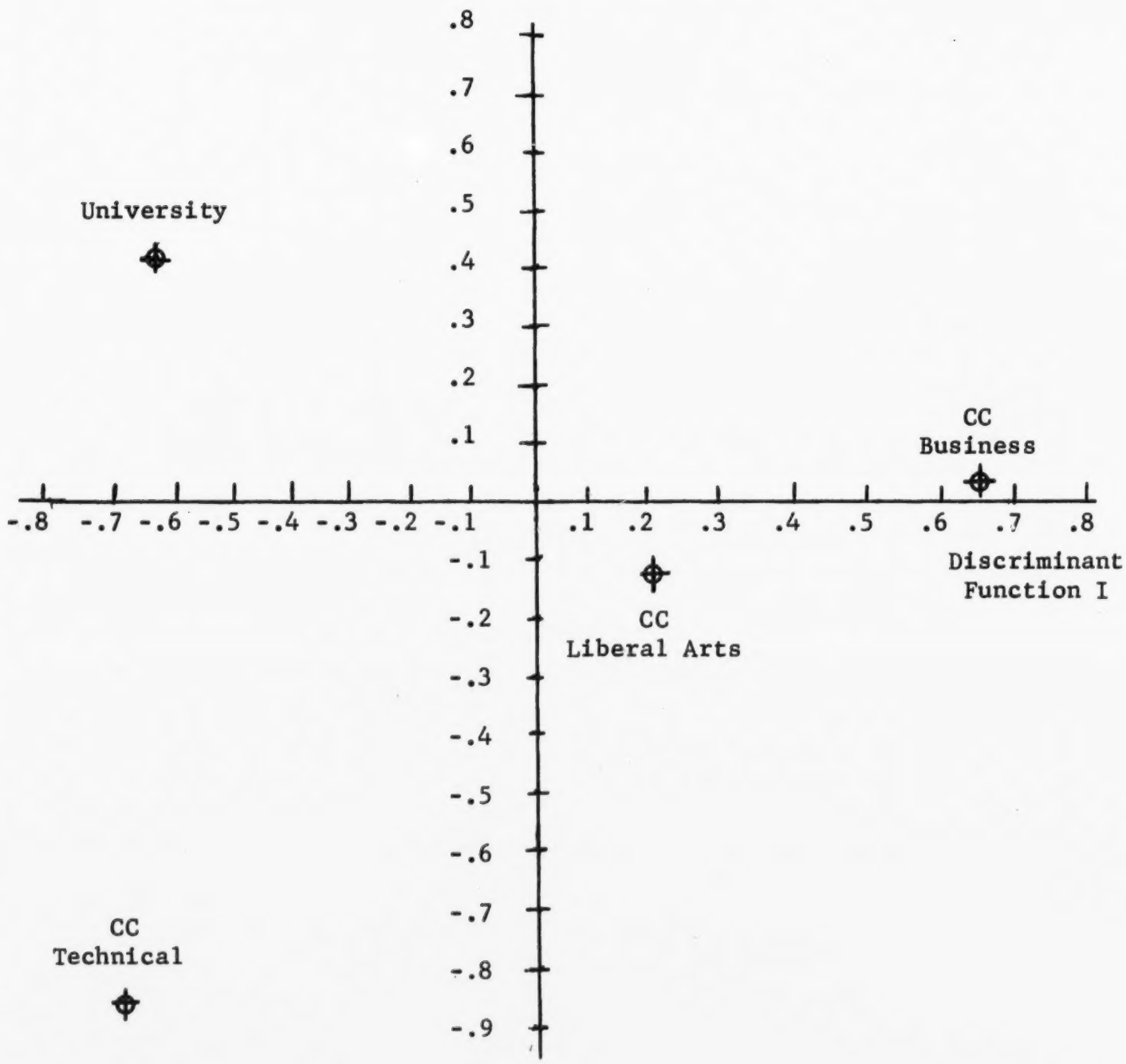

FIGURE 2

Centroids for the Four Groups
On The First Two Discriminant Functions
For the Posttest Data